

Arkansas Children's Hospital Research Institute RESEARCH UPDATE



Volunteer Families Are Essential to Autism Research



Charlie and his mother participated in a study examining the metabolic profiles of autistic children and their families.

An NIH-funded study examining the plasma metabolic profiles of children with autism is among the several autism studies conducted by Dr. Jill James, Director of the Autism Metabolic Genomics Laboratory, and her team of researchers at ACHRI. The risk of developing autism is thought to be based on an underlying genetic predisposition that is triggered by toxic environmental exposures during sensitive prenatal and postnatal periods. By examining the levels of relevant metabolites in methylation and oxidative stress pathways in autistic children, her team is able to determine whether an abnormal accumulation or deficit of specific metabolites exists that can provide clues into relevant candidate genes and environmental exposures.

Through three independent case-control studies, Dr. James has reported that many autistic children have evidence of reduced antioxidant/detoxification capacity as well as a decrease in folate-dependent methylation capacity. The results from these tests support the hypothesis that many children with autism may be under chronic oxidative stress that reduces their ability to detoxify environmental exposures.

Conducting these studies depends on the voluntary participation of children in Arkansas, with and without a diagnosis of autism, and their parents and siblings. Because of the diversity of symptoms within the diagnosis of an autism spectrum disorder, recruitment is limited to children 3 to 10 years of age who have classic autism, not the milder forms of the disorder or genetic conditions associated with co-morbid autism. Siblings and age-matched unaffected children are used as the control groups. In a recent publication in the *Journal of Autism and Developmental Disorders*, Dr. James reported that the abnormal metabolic profile is unique to the autism and is not present in the unaffected siblings or in the unrelated control children.

Maria and her son Charlie participated in the study earlier this year. Like most 3 year olds, Charlie loves puzzles, books, cartoons, and playing outside. At one of Charlie's checkups, his pediatrician referred the family to the UAMS Dennis Developmental Center on the ACH campus for screening for autism. Charlie was diagnosed with autism by the developmental pediatricians at the DDC. "When your child is diagnosed, you feel desperate for answers and treatment. Everybody has an answer, but every answer is different," says Maria. At the DDC, she met autism research staff and learned more about Dr. James' studies and possible study participation. Maria was impressed with the evidence-based nature of the studies and explains, "We would like to contribute to the greater knowledge about autism."

“These are great families...people that want to help,” says Program Specialist Laura Walters of the Autism Metabolic Genomics Laboratory of the selflessness of these families. “They have the knowledge about their child, and through our work,” Laura explains, “they can fill in the blanks for us.”

“Because an individual’s metabolic profile is influenced by both their genetic background and environmental exposures, we are able to envision appropriate intervention strategies for double-blind placebo controlled clinical trials to determine whether normalizing the abnormal profile will improve the immune health and behavioral symptoms in these children” said Dr. James. She adds, “The translational research potential from our laboratory findings to intervention treatment trials is a very exciting prospect that we are pursuing. Without the voluntary participation of families affected by autism and the control families in Arkansas our work would not be possible, and we are extremely grateful to them for helping us unravel the mystery of autism.”

President's Choice Publications of the Month

Stop by the bulletin board located in the first-floor lobby of the ACHRI building to see this month’s President’s Choice publications. The following articles were selected as this month’s feature publications.

- Melnyk S, Fuchs GJ, Schulz E, Lopez M, Kahler SG, Fussell JJ, Bellando J, Pavliv O, Rose S, Seidel L, Gaylor DW, James S Jill. Metabolic Imbalance Associated with Methylation Dysregulation and Oxidative Damage in Children with Autism. J Autism Dev Disord. 2011 Apr 26. [Epub ahead of print]
- Hobbs CA, Macleod SL, James S Jill, Cleves MA. Congenital heart defects and maternal genetic, metabolic, and lifestyle factors. Birth Defects Res A Clin Mol Teratol. 2011 Apr;91(4):195-203. doi: 10.1002/bdra.20784. Epub 2011 Mar 7.

ACHRI would like to know about your published findings, as your articles are published, please email or mail a copy to [Phaedra Yount](#) (mail slot 842). The number of publications by our researchers is reported to the hospital and ACHRI boards, so it is important that we receive an accurate count of the publications your research produces.

Reception for Joyce Norton

After 8.5 years of dedicated service, Joyce Norton is leaving ACHRI. Please join us for a reception to wish Joyce a fond farewell before she heads off on her next adventure. The drop-in reception is on Friday, May 13, between 2:00 pm and 4:00 pm in the Brandon Conference Room South A and B.

American Society of Pediatric Otolaryngology Presents Awards to Two Vascular Anomalies Researchers

Research fellows Dr. Yuemeng Dai and Dr. Fang Hou received William P. Potsic Basic Science Awards for outstanding achievement in the field of pediatric otolaryngology from the American Society of Pediatric Otolaryngology. Dr. Dai’s received first place for his research paper “Enos protein expressions is decreased in involuting hemangiomas,” and Dr. Hou received second place for his research paper "Novel in-vivo model for human lymphatic malformations". Their achievement is the first time in the award program’s history that researchers from the same institute were awarded first and second places in the same year. Their work represents the efforts in the field of vascular birthmarks of the in the Center for Investigation of Congenital Aberrancies in Vascular Development at ACHRI. Dr. Gresham Richter, Director of the Center, says, “I am so proud of our fellows and their excellent work. This is a high honor from the society and helps position our center as a leader in vascular anomalies research. Of course, this could never have been accomplished without the incredible support we received from ACHRI.”

SAS Global Forum Recognizes ACHRI Biostatisticians

Dr. Chris Swearingen and Maria Melguizo Castro of the Biostatistics Program of the Department of Pediatrics and Dr. Zoran Bursac of UAMS Biostatistics were awarded Best Contributed Paper in Statistics and Data Analysis at the SAS Global Forum held in April. The SAS Global Forum is the largest international meeting of SAS users. Their paper, *Modeling Percentage Outcomes: The %Beta_Regresion Macro*, provides a brief theoretical introduction to Beta Regression as well as a macro that implements Beta Regression and provides residuals plots for model fit diagnostics.

Changes to Executive Administrative Assistant Staff

With the departure of Joyce Norton, Jenny Kubacak is the Executive Administrative Assistant to both ACHRI Vice President Barry Brady and ACHRI President Richard Jacobs. As the duties of ACHRI's executive assistant team are adjusted, ACHRI will notify its research community. At this time, contact Jenny Kubacak as you would have Joyce Norton.

ACHRI Science Writer Receives Teaching Award

Please join ACHRI in congratulating John Gregan who received Pulaski Technical College's 2011 Adjunct Award for Teaching Excellence. John was recognized for his achievements and was presented with a plaque and medal at the college's annual awards ceremony on May 12, 2011.



Need More Information for Upcoming ACHRI Intramural Grant Proposal Submissions?

By the end of summer, ACHRI will begin accepting applications for three of its intramural programs: ABI (8/1), CUMG (9/1), and Student and Clinical Staff (9/15). This month, ACHRI begins its series of presentations on these three intramural programs. Attending the meetings will allow you to understand program goals, applicant eligibility, and application requirements. The review and award notification processes will be addressed. Bring your ideas, questions, or a draft application.

ABI: May 17, 10:30am to 11:30 am, Brandon North A&B

CUMG: June 7, 10:30am to 11:30 am, Brandon North A&B

Student and Clinical Staff: June 21, 10:30am to 11:30 am, Brandon North A&B

If you have questions about the presentations, contact John Gregan (364-6296) or Amy Stalls (364-3627).

Need Clinical Data From Meditech To Be Easily Accessible for Research?

Development of user-friendly databases containing patient data retrieved from Meditech is among the many services offered by the ACHRI/DOP Biostatistics Program. Jennie Stern, Clinical Systems Analyst, has experience with accessing data in Meditech and providing the data in databases that are user-friendly and easy to search and sort for IRB-approved research studies.

Under the direction of Dr. Todd Nick, the Biostatistics Program is dedicated to providing outstanding statistical and database support to researchers while advancing the reputation and research capacity on campus. Their services include grant development assistance with framing and refining research questions and reshaping the study design. In addition, they can collaborate in creating a statistical analysis plan (SAP), develop a randomization plan, determine/justify sample size, and develop a data management and data collection plan. They can provide database management, statistical analysis, and interpretation, instruction and preparation of results for publication and presentation.

If you are interested in database development or other services offered by the Biostatistics Program, please contact Darcy Ewalt at 364-6638.

Missed the Recent Investigator Meeting?

Slides from the May ACHRI Investigator Meeting can be found at <http://compoint/ACHRI/Investigator%20Meeting%20Slides/Forms/AllItems.aspx>. Be sure to mark your calendars for the remaining 2011 meetings. The dates are August 23 and November 2. These meetings are at 11:30 at South Campus in the Brandon Auditorium.

Recent Clinical Trial Activity

Investigator	Agency	Project Period	Total Cost
James, Laura	Quintiles	3/11 - 2/12	\$37,710
Romero, Jose	Baylor/Pfizer	4/11 - 3/12	\$42,787
Schmitz, Michael	Quintiles	4/11 - 3/12	\$48,764
Stine, Kimo	BPL	4/11 - 3/12	\$17,862
Heulitt, Mark	Impact	1/11 - 12/11	\$58,147

Recent Grant Awards and Submissions

Awards				
PI	Agency	Project Title	Project Period	Total Funding
Stacie Jones	Nat'l Peanut Foundation	Oral Immunotherapy for Peanut Allergy - Supplement	2/1/2011-1/31/2012	\$50,000.00
Maya Lopez	Autism Speaks	Team Up 2011 Family Scholarships	4/1/2011-7/1/2011	\$2,000.00
Submissions				
PI	Agency	Project Title	Project Period	Total Funding
Reza Hakkak	USDA	Obesity and Non-Alcoholic Fatty Liver Protection by Soy Protein Diet	1/1/2012-12/31/2014	\$500,000.00
Rosalia Simmen	American Institute for Cancer Research	Preventing Breast Cancer from the Womb: Maternal Obesity and Regulation of the Fetal Mammary Stem Cell Population	1/1/2012-12/31/2013	\$164,862.00

Grant Writing Tip: Use Latest Forms, Instructions

Some things never change, but instructions and forms for grant applications do. NIH updates them often, so it's important you use the most recent versions.

To ensure you're doing just that, check your funding opportunity announcement and Notable Changes Made to SF 424 (R&R) Application Guides

(<http://grants.nih.gov/grants/funding/424/index.htm#changes>). You can also get a heads up that revisions are imminent from the *NIH Guide*. For instance, the February 16 notice, NOT-OD-11-045 (<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-11-045.html>), announced that biosketch instructions would be revised to allow you to explain periods of reduced productivity.

If you've filled out and attached forms only to discover that updated versions have come out, do the following:

- Cut information from the old forms and paste it into the new ones.
- Add new details, if applicable. Using the modified biosketch as an example, you could include reasons for reduced productivity.
- Reattach the form documents.

Don't have your application rejected by using outdated forms or instructions. Check for updates concerning the application and forms regularly—even up to the last minute before applying.

(Adapted from *NIAID Funding News*)

Writing and Editing Resources on Campus

Your work is worthwhile to the Arkansas Children's Hospital Research Institute and the Department of Pediatrics. Publishing and publicizing your accomplishments are essential obligations that we share with you. We also know that obtaining and maintaining funding requires good writing. These are the reasons why we offer ACHRI researchers and Department of Pediatrics faculty on the ACH campus editing and writing services. To learn more about these resources, visit <http://compoint/DOP/SWE/default.aspx>. You must be logged on to the UAMS network to access compoint.

Need assistance but don't know who to call at ACHRI?

If you have questions while considering or conducting research at ACHRI or ACH but aren't sure who to contact, call our office at 364-7373. Our staff will be glad to help you or to connect you with the person that can help.



Please check out our revised administrative staff directory on the web (<http://achri.archchildrens.org/staff.htm>). The directory now includes descriptions of services offered by ACHRI staff.

Funding Opportunities

Federal

Key words: Children with Special Health Care Needs

[Innovative Evidence Based Models for Improving the System of Services for CYSHCN \(HRSA\)](#)

Deadline: Letter of Intent (not required): May 31, 2011; Application: June 13, 2011

Eligibility: Non-profit organizations

Key words: HIT – Substance Abuse Treatment

[Grants to Expand Care Coordination through the Use of Health Information Technology in Targeted Areas of Need \(SAMHSA\)](#)

Deadline: Application: June 13, 2011

Eligibility: Non-profit organizations

Key words: Substance Abuse

[Screening, Brief Intervention, and Referral to Treatment with a Trauma Module \(SAMHSA\)](#)

Deadline: Application: July 5, 2011

Eligibility: Non-profit organizations

Key words: Violence Prevention

[Striving To Reduce Youth Violence Everywhere \(STRYVE\) Through Local Public Health Leadership \(CDC\)](#)

Deadline: Letter of Intent (not required): May 24, 2011; Application: June 13, 2011

Eligibility: Hospitals must work with their local, city or county public health department to apply for this grant.

Private

Key words: Children with Disabilities; Underserved Populations

[CVS Caremark Charitable Trust](#)

Deadline: May 1 - June 15 for applications targeting children with disabilities and July 1 - August 15 for applications targeting health care services for underserved populations

Eligibility: Non-profit organizations

Key words: Health Care Financing and Organization

[Robert Wood Johnson Foundation - Changes in Health Care Financing and Organization](#)

Deadline: Application: Ongoing

Eligibility: Non-profit organizations

Pediatric Research

Key words: Hematologic Disorders – Clinical Trials

[Clinical Trials Development Resource for Hematologic Disorders \(U24\) \(NIH\)](#)

Deadline: Opening: September 13, 2011; Letter of Intent (not required): September 13, 2011;

Application: October 13, 2011

Eligibility: Non-profit organizations

Key words: Rare Hemostatic and Thrombotic Disorders – Clinical Trials

[Clinical Trials Planning Studies for Rare Thrombotic and Hemostatic Disorders \(U34\)](#)

Deadline: Opening: September 13, 2011; Letter of Intent (not required): September 13, 2011, September 13, 2012, and September 17, 2013; Application: October 13, 2011, October 15, 2012, and October 17, 2013

Eligibility: Non-profit organizations

Key words: Type 1 Diabetes – Clinical Trials

[Clinical Trial Planning Grants in Type 1 Diabetes \(R34\) \(NIH\)](#)

Deadline: Opening: February 15, 2012; Letter of Intent (not required): February 15, 2012;

Application: March 15, 2012

Eligibility: Non-profit organizations

Private

[Recent Grants and Gifts to Children's Hospitals](#)

Pediatric Research

[NIH News Release: NIH-funded centers to assist rehabilitation researchers](#)

[Ruth L. Kirschstein National Research Service Award \(NRSA\) Stipends, Tuition/Fees and Other Budgetary Levels Effective for Fiscal Year 2011 \(NIH, AHRQ, HRSA\)](#)

[NIH Fiscal Policy for Grant Awards – FY 2011](#)

[NIH News Release: NIH-funded researchers gain ground in treatment of fatty liver disease in children](#)